

### REMARKS

Claims 1-22, all the claims pending in the application, stand rejected. Claims 1, 13, 16 and 21 are amended.

As a preliminary matter, Applicants wish to thank the Examiner and her Supervisor for the courtesy extended to the Applicants' representative during a personal interview conducted on June 28, 2004 at which the issues discussed herein were addressed in detail. Applicants also are appreciative of the assistance rendered in defining features of the claims that distinguish the prior art.

#### *Withdrawal of Finality of Rejection*

As a preliminary matter, Applicant notes that the Examiner has cited a new reference in formulating her rejection. Moreover, that new reference was not provided to the Applicant until a hand delivery at the Interview. Thus, the finality of the rejection is traversed and the finality should be withdrawn.

The Examiner states that:

“Regarding Applicant’s argument that the patent to Miller is based on an application filed June 28, 2001, the Examiner agrees; however, also points out to the Applicant that Miller claims priority to a provisional application filed July 07, 2000 which predates the Applicant’s priority date and is thus prior art. The Examiner has pulled and reviewed the provisional application and it fully and explicitly supports all parts of Miller for which the Examiner has relied upon.”

Applicants respectfully submit that the Examiner is citing a new reference in taking this position, and that reference is one not made available to the Applicants. The Examiner should have cited that reference earlier and should have known that the U.S. filing date of Miller was inadequate to form a proper basis for rejection in light of Applicants’ priority date. Moreover, the Examiner has acknowledged that she had reviewed the document but had not provided it to the Applicants. That document should have been made available to the Applicants in order to provide due process and fair opportunity for Applicants to review the teachings of the

provisional document. The Examiner's conclusion that the provisional application fully and explicitly supports all parts of Miller relied upon is unavailing, as Applicants should have an opportunity to examine the basis for the Examiner's conclusions and traverse it as appropriate.

Applicants have reviewed the Provisional application that corresponds to the Miller patent and concludes that the teachings are overcome for the reasons given subsequently with respect to the Miller reference itself. In the event that the Examiner does not find the application allowable on the bases discussed at the Interview, Applicants preserve the right to petition for a new and non-final Office Action if the present rejection on prior art is to be maintained.

### *Drawings*

The Examiner continues to object to the drawings under 37 C.F.R. § 1.83(a) because they do not show "every feature" of the invention specified in the claims. The Examiner requires the Applicants to show in the drawings 1) the mark-up processing device, 2) the mark-up of an improvised musical operation, 3) operation instructions, 4) mark-up occurring with each chord and timing, 5) evaluation of the player, 6) guidance information display device, 7) players improvising a duet and 8) time required for playing improvised piece. The Examiner comments that all other claim limitations not listed must be shown or the features canceled from the claims.

In response to Applicants' previous argument that the illustrated base system of Figs. 1, 2 and 14, the flowcharts of Figs. 3, 9, 11, 13, and 16, and the display screen illustrations of Figs. 4, 10, 12 and 17 satisfy this requirement, the Examiner asserts that the claimed "features" are not illustrated. At page 3, paragraph 1 of the Office Action, the Examiner asserts that the content of the figures are general illustrations and do not clearly relate to the specifically stated features. The Examiner explains that she is not requiring each claim limitation corresponding to a structure to be illustrated, but that "each feature be properly illustrated."

Applicants submit that as to 1) the CPU in Fig. 1 is the "mark-up processing device;" as to 2) the mark-up of an improvised musical operation is a combination of the CPU 10 operating the flow chart of Fig. 3, particularly step S300, and the Figure can be viewed as illustrating the "markup operation"; as to 3) the operation instructions can be identified with the placement of

the keyboard 400, triangles 410 and reference line 404 in Fig. 4 as explained at page 12 and in step S900 of Fig. 9, as explained at page 17, and the step in Figure 9 clearly refers to “operation instructions”; as to 4) the mark-up occurring with each chord and timing can be found in Figs. 13A and 13B, as to 5), the score box in Figs. 4 and 10 is the basis for “player evaluation”; as to 6) the display 57 in Fig. 2 combined with the illustration in Fig. 12 is the “guidance information display;” and, as to 7) the players improvising a duet can be seen in Figs. 16 and 17 and Fig. 17 is a “display screen for improvised duet.” Applicants now believe that the interview with the Examiner has permitted the foregoing identification of the illustrations that correspond to the claimed subject matter.

***Claim Rejections - 35 U.S.C. § 112***

Claims 1-22 are again rejected under 35 U.S.C. § 112, second paragraph as being indefinite. The Examiner repeats her comment that claims 1, 13, 16, 21 and those dependent therefrom are indefinite because it is not adequately defined to one of ordinary skill in the art how the mark-up processing device could mark-up an improvised musical operation and how the performance can be improvised while performed in accordance with an operation instruction. In her response to Applicants’ arguments, the Examiner observes that one of ordinary skill would not understand how an improvised performance, which is created or changed by a musician on the spot, would be marked up. The Examiner also comments that it is not clear what is meant by “performance operation and instruction” as it relates to an improvised performance, again because the Examiner finds that the existence of an instruction contradicts the fact that a performance is improvised. Finally, the Examiner again comments that there is no proper definition in the claims for what is meant by the term “marks-up”.

As a preliminary matter, Applicants wish to emphasize that the claims are to be read in light of the specification and the knowledge of one skilled in the art. Applicants submit that the specification clearly teaches to one skilled in the art the precise meaning of the term “mark up” and that the manner in which instructions are provided as a piece is being improvised, and the manner in which a piece is marked up as it is being performed is clear. Applicants respectfully

submit that this relationship need not be defined in the claims, as the claim language is to be interpreted in light of the specification.

### **Mark-Up**

First, the term “mark up” is related to **scoring an improvised performance** (page 2) and the mark-up processing device is operative to mark up, e.g., score, the improvised performance provided by a player through use of an actual performance operation instrument. The scoring is provided by the scoring display 402 (Figs. 4 and 10) and the processing to provide the scoring (mark-up) is provided by the processor following the program, for example, step S920 and step S1620. Notably, the term “mark up” is to be distinguished from the “marks” 410 that appear in Fig. 4 and are generated as a result of the step in Fig. 3 designated as “mark display processing,” as described at page 16.

Indeed, as expressly described at pages 15-16:

When improvised musical performance is completed, the CPU 10 marks up the improvised performance (step S920). Fig. 13A shows a result of first mark-up operation. When the CPU 10 executes processing pertaining to step S1300, musical scale data pertaining to the musical performance data having been stored in the RAM 30 beforehand are sequentially ascertained. Musical performance data whose progression of musical performance chords matches the chord progression data stored in the chord progression data table 500 are detected and counted. The CPU 10 takes as a score, for example, a counted value or a product formed by multiplying a counted value by a predetermined number, and displays the thus-produced score in the score display area 402 in the display area 57.

\*\*\*

Fig. 13B shows a second mark-up operation. When the CPU 10 performs processing pertaining to step S1310, timing data pertaining to key operations (i.e., key operation timing data) stored in the RAM 30 are sequentially ascertained. A

match in performance timing between the key operation timing data and the timing data stored in the timing data table 600 is detected and counted. The CPU 10 takes as a score, for example, a counted value or a product formed by multiplying a counted value by a predetermined number. The score is displayed on the score display area 402 in the display area 57.

A player's improvised performance can be marked on the basis of musical performance timings by a mark-up operation of the CPU 10. In this example, the CPU 10 effects counting every time a match exists between the key operation timing data and a plurality of preset mark-up reference timings (i.e., a plurality of timing data sets stored in the timing data table 600). The improvised musical performance is marked up while a counted value is taken as a score. Thus, an improvised musical performance can be marked in accordance with a progression of musical chords.

Clearly, from the above teachings, the mark-up processing device (CPU 10 in the example) effects mark-up operation on the basis of a progression of musical performance chords and musical performance timing of the improvised musical performance of the player. Also, from the foregoing description, the "mark up" can be a scoring indicated in a display (e.g., 402) or a display of an improvised score, as in Figs. 11 and 12.

### **Performance Operation Instructions**

The Examiner opines that there is insufficient disclosure of how performance operation instructions are given, particularly where the performance is to be improvised. However, the specification again makes this clear.

As explained at page 12:

The CPU 10 sends a display control signal to the image processing CPU 52, to thereby effect mark display processing (step S300). Triangular marks designated by reference numeral 410 shown in Fig. 4 are displayed so as to fall in sequence in the direction from top to bottom in the drawing. If the player has operated a

corresponding key on the keyboard section 82 of the keyboard 80 when the mark 410 has arrived at the position of the reference line 404, the CPU 10 increments a score (in step S330) as the player has attained performance as instructed by the mark 410 (i.e., YES is selected in step S310). The result of the increment appears on the score display area 402.

When a key operation is not performed as instructed by the mark 410 (NO is selected in step S310), a score is not incremented. This game is continued (NO is selected in step S320) until the game becomes over (YES is selected in step S320). Thus, there is performed a game of evaluating the accuracy of operation performed when the player has played the keyboard 80 in accordance with an operation instruction imparted in the form of the marks 410 to the keyboard display image 400 appearing on the display area 57 as a game display screen.

In the present invention, the player enters not a game that is completely bound by these marks 410, but an improvised performance mode in which the player can perform with a certain degree of freedom in accordance with a performance operation instruction; e.g., a chord display, and the improvised performance is marked up. (emphasis added)

Clearly, the display device may change the display image of a performance operation instrument such that the player can understand details of operation to be performed in accordance with a progression in a musical composition which is an object of improvised musical performance. Alternatively, the display device may display a musical score such that the player can ascertain the position of an improvised musical performance in a musical score of a musical composition which is an object of improvised musical performance.

Also, as explained at page 17:

As described in connection with step S1100 shown in Fig. 11, an improvised music score information display is mentioned as still another example for

displaying guidance information. As shown in Fig. 12, prior to starting improvised musical performance, the CPU 10 conspicuously highlights an improvised section 1200 in musical score data belonging to the musical composition data. As a result, a player can ascertain the start of improvised musical performance before providing the improvised musical performance. Highlighting is effected, by way of displaying a target area in a color different from that in which the other area is displayed.

In step S900, the CPU 10 displays guidance information and can support improvised performance of a player. One of the methods of displaying guidance information may be employed, or some of the methods may be employed simultaneously.

#### **Improved Performance**

Again, the total effect, expressed at page 2, lines 7-25 and easily understood by one skilled in the art, is to permit an improvised performance is one that is “ad-libbed” and is creative. This provides a game system which enables a player to enjoy improvised performance “for obviating a feeling of wanting more and mark-up (i.e., score) the improvised performance.” Again, to repeat an example given before, a player may improvise a given well known song, e.g., “Jingle Bells,” by adding to it riffs, chord progressions, changes in timing and the like. This is not the creation of an entirely new song from scratch, but the provision of harmonic, compatible adaptations of the basic score in a manner that would be considered artistically acceptable and coherent. The changes in timing, sequences of chords and departures from the underlying musical melody are all elements of improvisation that may be evaluated by a processor.

As explained beginning at page 17, according to the disclosed and claimed invention, the game is not completely bound by the marks 410 but an improvised performance mode can provide a player with a certain degree of freedom in accordance with a performance operation instruction such as a chord display. This results in the improvised performance being “marked-up”. The first embodiment at page 17 teaches a use of chord progression data (500) and timing

data (600) that govern the timings at which a key is to be operated. Guidance information, which is improvised musical performance operation guide information for a player (step 900), is provided by the use of guidance marks 420 that are added to a keyboard display image until the improvised musical performance ends.

Thus, Applicants respectfully submit that the disclosure of the invention is abundantly clear and provided with examples adequate to instruct one of ordinary skill in the art how to conduct such improvised musical game operation. On the foregoing basis, this rejection is overcome.

***Claim Rejections - 35 U.S.C. § 103***

**Claims 1-22 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Miller (6,541,692).** This rejection is traversed for at least the following reasons.

**The Invention**

The operation of the present invention has already been described with regard to the rejection under 35 U.S.C. § 112 and in the previous reply to the first Office Action. The claims expressly reflect one or more features of this operation. The independent claims have been amended to state that the mark up processing relates to a “player improvised musical performance,” rather than an “improvised musical operation,” as originally stated. This change supports a distinction, subsequently discussed, with respect to the machine generated music in Miller.

**Miller**

Specifically, Applicants respectfully submit that the patent to Miller is based upon a U.S. application filed on **June 28, 2001**. The present application is based upon Japanese Application 2000-207621 filed on **July 10, 2000**, which is the priority date for the present application. Applicants respectfully assert that the rejection based on Miller is overcome on the basis of the Applicants’ priority date.



The Examiner now notes Miller identifies a related U.S. application as Provisional Application No. 60/216,825, filed on **July 7, 2000**. The Examiner now has made this Provisional application of record and used the document as a basis for rejection. Nonetheless, on the basis of the description in the Miller Provisional application, the claimed invention should be considered patentable.

Applicants respectfully reiterate their attack on the rejection substantively by noting that Miller is not directed to a game involving player improvisation of musical pieces for experienced game players. Instead, Miller is directed to a musical learning device that enables a non-musician to produce reasonable music without any prior training. Thus a complete novice can use an input device to play a part that fits in well with a harmonious background music part (col. 2, lines 35-44). The invention includes a display that provides guidance to the player rather than relying on the player's ability to improvise (col. 2, lines 51-53).

With regard to the use by multiple players, the invention allows non-musicians to play together using a public network with high and/or variable latency characteristics (col. 2, lines 59-62).

Applicants again emphasize that, by contrast to the present invention, the invention of Miller provides the illusion that the user is playing along with the musical performance but does not involve actual play (col. 3, lines 23-24). According to Miller, when a player plays a note, the computing device uses a sound synthesis unit to generate a musical tone (col. 3, lines 55-56). Thus, the sound produced is for a synthesis of the machine. There is no actual improvisational performance of the player, where the raw input by the player is recorded without assistance from the game machine.

Even though the Examiner asserts that the Miller reference teaches the evaluation of a player's performance using a scoring mechanism as well as competition between players (col. 4, lines 4-52) and the game can be played at several levels, the fundamental distinction between Miller and the present invention still remains. Namely, there is no improvisational musical

performance in a game environment that can be evaluated on the basis of improvisational parameters such as timing and chords, as expressly claimed.

The Examiner has asserted that Miller states that new songs are quickly and easily composed and that this results in improvisation. The basis for this statement has not been identified, but Applicants assume it must involve mere selection of alternative patterns or structural components. Applicants again contend that the use of alternative structural components and alternative patterns, in order to provide variety within a song such that a user can play a single song a number of times without producing the same musical pattern in the same song each time, is a matter of variation by the machine and not improvisation of a musical performance by the player. The only variation, as explained at col. 8, line 10, the pattern 45 shown in Fig. 3 has four different rhythmic decomposition or alternative patterns. Each is valid in the context of the music and the user may play along with a song in accordance with any one of the four alternative patterns. Each time the user plays the song, a different alternative pattern can be accessed to provide some variety in the music and prevent the song from being too repetitious. However, this is not improvisation by the player. It is merely selection by the machine. Thus, Applicants again assert that the invention as now defined is patentable for the reasons given, even if the Miller Provisional application is applied against the claims.

Finally, the Examiner notes Applicants' argument that the improvisation is by a user (and not a machine) and asserts that the claim language is not "coterminous," that is does not explicitly state that improvisation is by a user. It seems that the term improvisation necessarily means by a player, in common terminology or as used in the specification. The term clearly does not envelop pure machine generated music. In order to make this clear, the Applicants have amended the claims to expressly state that "a player improvised musical performance" is involved.

This reasoning would apply to any of independent claims 1, 13, 16, and 21. Accordingly, Applicants continue to believe that no amendments are needed at this time.

Amendment Under 37 CFR § 1.116  
09/880,909

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

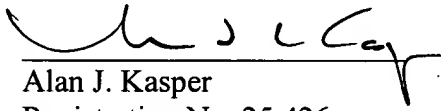
Respectfully submitted,

SUGHRUE MION, PLLC  
Telephone: (202) 293-7060  
Facsimile: (202) 293-7860

WASHINGTON OFFICE

**23373**

CUSTOMER NUMBER

  
Alan J. Kasper  
Registration No. 25,426

Date: July 9, 2004